

ENERGY DELIVERY DEVICE WITH SELF-HEAT CALIBRATION**ABSTRACT**

The present invention provides an energy delivery device for use with a medical treatment system for the more efficacious treatment of patients during laser surgery. An energy
5 delivery device comprises an optical fiber and a memory device having data programmed therein. The data is specifically associated with the energy self-absorption properties of the optical fiber. This data may include a calibration parameter indicative of a self-heating characteristic of the optical fiber. The optical fiber and the memory device are operatively connected to the energy delivery device during use of the medical treatment system. The
10 calibration parameter stored within the memory device is used by a main processor to calculate a corrected temperature value from a measured temperature at the treatment site. Thereafter, the power level of the energy generator is automatically adjusted in response to the corrected temperature value to assure that the proper energy is delivered to the human tissue through the light-diffusing section of the optical fiber. The power level is either increased or decreased to
15 the correct power level setting for the desired temperature based on the calibration parameter.

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